

WHAT IS CLAIMED IS:

1. A method comprising the steps of:

receiving a multiplexed packetized data stream that carries real-time multimedia programs;

during a first time:

storing a first portion of the packetized data stream representing video data and timing data of a program;

setting a system time indicator to a stored system time value, wherein the stored system time value is based on a portion of the timing data of the first portion of the packetized data stream;

during a second time:

incrementing the system time indicator;

retrieving the video data of the first portion of the packetized data stream for video decoding; and

storing a second portion of the packetized data stream representing video data and timing data of the program.

2. The method of claim 1, wherein

the step of storing the first portion of the packetized data stream includes the first portion of the packetized data stream representing audio data of the program;

the step of storing the second portion of the packetized data stream includes the second portion of the packetized data stream representing audio data of the program;

the method further including the step of

during the second time

the step of accessing the audio data of the first portion of the packetized data stream for audio playback.

3. The method of claim 1, wherein the multiplexed packetized data stream is a

multiplexed packetized data stream that substantially meets an MPEG2 specification.

4. The method of claim 3, wherein the step of storing the first portion includes storing transport stream packets.
5. The method of claim 4, wherein the step of storing the first portion includes the sub-steps of
 - determining transport stream packets containing data associated with the program; and
 - storing the transport stream packets containing data associated with the program after the step of determining.
6. The method of claim 3, wherein the step of storing the first portion includes storing packetized elementary stream (PES) packets.

7. The method of claim 6, wherein the step of storing the first portion includes the sub-steps of
 - determining transport stream packets containing data associated with the program; and
 - storing PES packets based upon the transport stream packets containing data associated with the program after the step of determining.
8. The method of claim 1, wherein the step of storing the first portion of the transport stream includes the timing data including synchronization information used for playing the program back at a real time program bit-rate.
9. The method of claim 1 wherein the step of incrementing the system time indicator includes incrementing the system time indicator based upon a signal generated from multiplexed packetized data stream data received after the first time.
10. The method of claim 1 further comprising the step of:
 - decoding the video data of the first portion to provide a decoded video stream.
11. The method of claim 10, wherein the steps of receiving a multiplexed packetized data stream and decoding the video data are performed by an integrated semiconductor device.
12. The method of claim 10 further comprising the step of:
 - providing the decoded video stream for display at a play back rate.
13. The method of claim 12 wherein the play back rate is a real time rate.
14. The method of claim 12 wherein the step of providing the decoded video stream for display includes determining the play back rate based upon clock recovery data of the first portion of the transport stream, wherein the play back rate will vary

depending upon a rate at which the first portion of the transport stream data is provided to a decoder during the step of decoding.

15. The method of claim 12 wherein the step of providing the decoded video stream for display includes determining the play back rate based upon timing data received from the multiplexed packetized data stream after the first time.
16. The method of claim 15, wherein the timing data received from the multiplexed packetized data stream after the first time is associated with a current real-time data stream.
17. The method of claim 12, wherein the play back rate is faster than a real time rate.

18. A method comprising the steps of:
- determining a mode of operation;
 - during a first mode of operation:
 - receiving a multiplexed packetized data stream at a first demultiplexer;
 - selecting a first program from the multiplexed packetized data stream;
 - decoding a video portion of the first program for display;
 - during a second mode of operation:
 - receiving the multiplexed packetized data stream at the first demultiplexer;
 - selecting the first program from the multiplexed packetized data stream;
 - storing the first program;
 - during a third mode of operation:
 - receiving the multiplexed packetized data stream at the first demultiplexer;
 - selecting the first program from the multiplexed packetized data stream;
 - storing a first program portion of the first program;
 - providing the first program portion to a second demultiplexer;
 - selecting at the second demultiplexer a video portion of the first program portion;
 - decoding the video portion of the first program portion for display; and
 - storing a second program portion of the first program simultaneous to the step of decoding.
19. The method of claim 18, further comprising during the third mode of operation the steps of:
- providing the second program portion to a second demultiplexer;
 - selecting at the second demultiplexer a video portion of the second program portion; and
 - decoding the video portion of the second program portion for display.
20. The method of claim 18 further comprising, during the third mode of operation, the steps of:

incrementing a counter associated with the second demultiplexer based upon a signal generated using a live feed of the multiplexed packetized data stream as it is received at the first demultiplexer.

21. A system comprising:
- a first input node to receive a multiplexed packetized data stream that carries real-time multimedia programs;
 - a first transport stream demultiplexer having an input coupled to the first input node to select packets of data having a predefined packet identifier and an output to provide the select packets of data;
 - a storage device having a data port coupled to the output of the first transport stream demultiplexer to receive the select packets, wherein the storage device is to store the select packets;
 - a first clock recovery module having an input coupled to the first input node, and an output, wherein the clock recovery module is to generate a clock at the output based upon received timing information transmitted in packets of the multiplexed packetized data stream before it is stored in the storage device;
 - a decoder having a first input coupled to the output of the first clock recovery system to receive the clock, a second input coupled the data port of the storage device to receive the select packets, and an output to provide decoded real-time data
22. The system of claim 21, wherein the first clock recovery module further generates the clock based upon data transmitted in packets of a currently received multiplexed packetized data stream.
23. The system of claim 21, wherein the first clock recovery module further generates the clock based upon multiplexed packetized data stream data stored in the storage device.
24. The system of claim 21, wherein the decoder includes a video decoder.
25. The system of claim 24, wherein the decoder includes an audio decoder.

26. The system of claim 21 further comprising:
- a second transport stream demultiplexer having an input coupled to the data port of the storage device;
27. The system of claim 26 further comprising:
- a second clock recovery module having an input coupled to the data port of the storage device to allow STC setting based on a stored system time.